



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------|-------------|----------------------|------------------------------|------------------|
| 10/646,530 | 08/23/2003 | John Groe | SECO-018/01US 304014-2032 | 8492 |
| 23419 | 7590 | 08/07/2007 | EXAMINER | |
| COOLEY GODWARD KRONISH LLP | | | PHU, PHUONG M | |
| ATTN: Patent Group | | | ART UNIT | PAPER NUMBER |
| Suite 500 | | | 2611 | |
| 1200 - 19th Street, NW | | | | |
| Washington, DC 20036-2402 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 08/07/2007 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/646,530 | GROE ET AL. |
| | Examiner | Art Unit |
| | Phuong Phu | 2611 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 May 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 2-20 is/are allowed.
- 6) Claim(s) 1 and 21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 5/21/07. Accordingly, claims 1-21 are currently pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 and 21 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling.

Claim 1 claims a charge pump circuit (see figure 9 of the instant application). A charge pump core circuit (800), comprising elements (P1, P3, N1, N3) (see figures 8 and 9 and, specification, page 8, lines 7-13, of the instant application), is critical or essential to the charge pump circuit as practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Claim 21, depended on claim 1, is therefore also rejected.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01.

Claim 1 recites the limitation "a replica circuit that provides a current difference between charge (UP) and discharge (DN) currents". It is unclear in the claim on how the "charge (UP)

and discharge (DN) currents” are formed/generated so that the “replica circuit” can provide the “current difference” based on the “charge (UP) and discharge (DN) currents”. Claim 1 omits a charge pump core circuit (800), comprising elements (P1, P3, N1, N3) (see figures 8 and 9 and, specification, page 8, lines 7-13, of the instant application), as an essential element, for generating the “charge (UP) and discharge (DN) currents”.

Claim 1 recites the limitation “a buffer coupled to the replica circuit to buffer a received control voltage”. It is unclear in the claim on how the “control voltage” is formed/generated. The claim omits the charge pump core circuit, as an essential element, for generating the “control voltage”.

Claim 21, depended on claim 1, is therefore also rejected.

6. Claims 1 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Claim 1 recites the limitation “a buffer coupled to the replica circuit to buffer a received control voltage”. Claim 1 omits essential structural cooperative relationships of element “buffer” and element “replica circuit”. Such omission renders the claim unclear on whether the input of the “buffer” is coupled to the input or the output of the “replica circuit”, or whether the output of the “buffer” is coupled to the input or output of the “replica circuit”, and unclear on whether the output or operation of the “replica circuit” has any interrelationship with the “control voltage”, for making the claimed charge pump circuit as a complete connective, operative circuit.

Similarly, claim 21 recites the limitation “said buffer has an input to buffer a received control voltage and an output operatively coupled to said input and said replica circuit”. It is

unclear in the claimed on whether the “input” is coupled to the input or coupled the output of the “replica circuit”.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Si (6,781,425), previously cited.

-Regarding claim 1, Si discloses a charge pump circuit (see figure 2, col. 3, line 25 to col. 4, line 32) comprising:

a circuit (comprising (M2, M4), (the circuit considered here equivalent with the limitation “replica circuit”), that provide a charge current (I_{up}) and a discharge current (I_{dn}) which inherently cause and provide a current difference/sum of charge and discharge currents to the input at port (+) of buffer (30); and

a buffer (30) coupled to the circuit to inherently buffer a received voltage received at node (OUT), (the voltage considered here equivalent with the limitation “control voltage”).

-Regarding claim 21, Si discloses that said buffer has an input at port (+) to buffer the received voltage received at node (OUT) and an output (OutB) operatively coupled to said input (via the buffer) and coupled to said circuit (via the buffer) (see figure 2).

Allowable Subject Matter

9. Claims 2-20 are allowed.

Response to Arguments

10. Applicant's arguments filed on 5/21/07 have been fully considered. As results, the previous objection to Oath/Declaration has been withdrawn, and the previous rejections have been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2611

Phuong Phu
Phuong Phu
07/30/07

PHUONG PHU
PRIMARY EXAMINER

Phuong Phu
Primary Examiner
Art Unit 2611